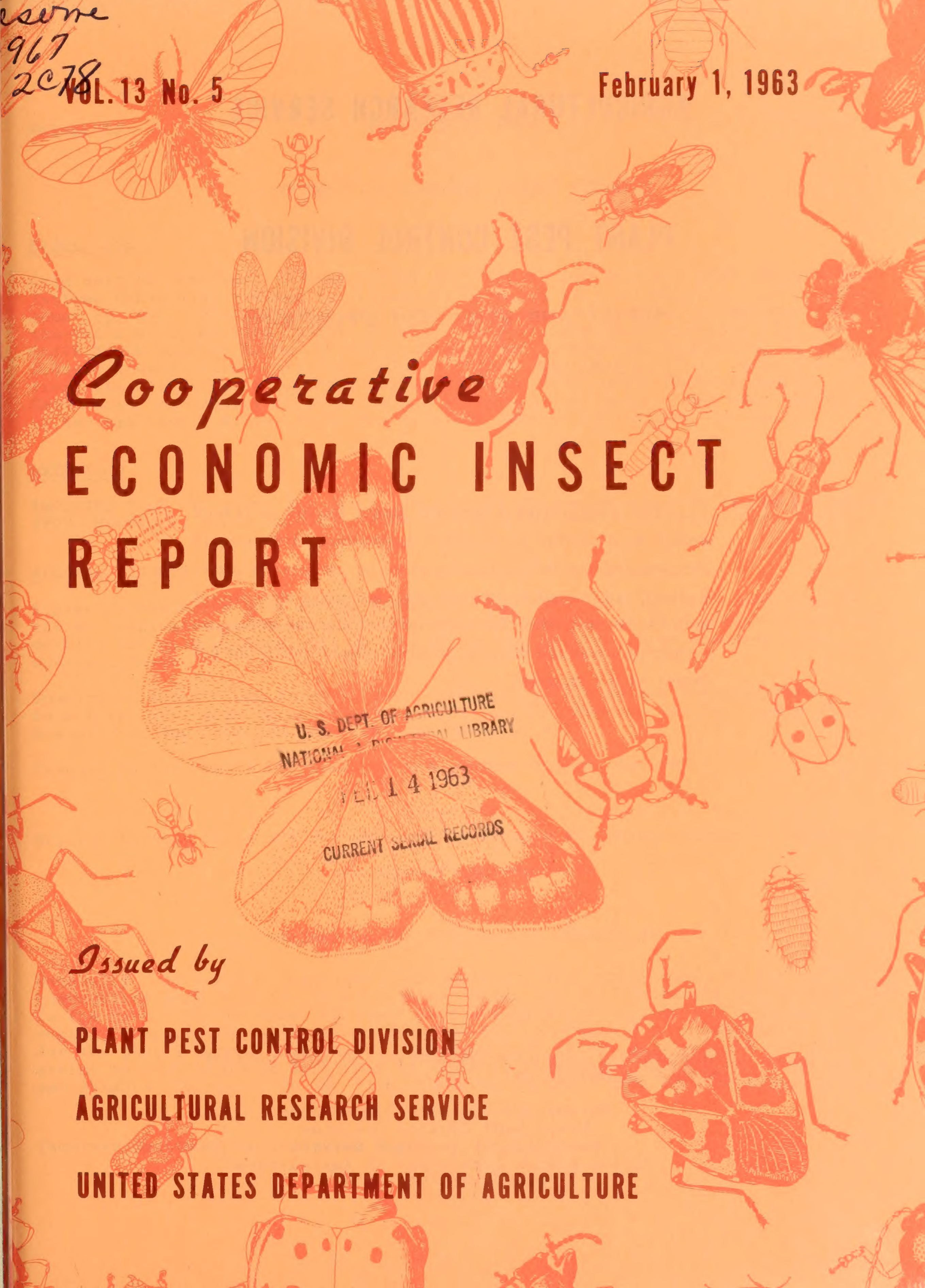
Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

eserve
967
2C78



VOL. 13 No. 5

February 1, 1963

Cooperative ECONOMIC INSECT REPORT

U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY
FEB 1 4 1963
CURRENT SERIAL RECORDS

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Washington 25, D. C.

Volume 13 February 1, 1963 Number 5

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Cold weather continues to keep insect activity at low levels. ARMY CUTWORM populations heavy and damaging to legumes in Drummond area of Garfield County, Oklahoma. (p. 63). MEDITERRANEAN FRUIT FLY continues to be found in Lauderdale-by-the-Sea area of Broward County, Florida. Aerial treatments underway. (p. 63). OLIVE SCALE appears to be spreading rapidly and increasing in severity in San Joaquin County, California. (p. 66). A SCARAB (Ceratophyus sp.), found for the first time in the U. S. at Vandenburg Air Force Base, Santa Barbara County, California, in January of 1962, is now noticeable in lawns of new model homes at the air base. Winter rains may activate beetle populations. (p. 68).

DETECTION

IMPORTED FIRE ANT found for first time in the following counties during December 1962: Beaufort, South Carolina; Ashley, Arkansas; and Polk, Texas. (pp. 67-68).

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 66). Cold weather continues to assist eradication efforts; it is anticipated that the small populations able to survive the cold weather will be overwhelmed by sterile flies released over southern Texas.

Summary of Insect Conditions in some Countries of Africa and the Near East - Turkey (p. 69); Iran (p. 71); Afghanistan (p. 72); Morocco (p. 74); Libya (p. 76); Republic of the Sudan (p. 78); and Ethiopia (p. 82).

Changes in the Scientific Names of Some Common Aphids. (p. 84).

Reports in this issue are for week ending January 25, unless otherwise indicated.

****

WEATHER OF THE WEEK ENDING JANUARY 28

Unusually cold weather continued over virtually the entire country, for the third consecutive week west of the Mississippi River and for the second consecutive week in the East. In the Ohio and upper Mississippi River Valleys and Great Lakes region, temperatures at numerous stations have averaged 20° or more below normal for the past 2 weeks. Cold waves early and late in the week brought sub-zero minima to such southern locations as Memphis, Tennessee; Birmingham, Alabama; and Atlanta, Georgia. On the 24th, numerous stations from Ohio southward recorded

(Weather continued on following page)

new alltime low temperatures, a few of which are here listed:

Station	Lowest	Previous Low
Nashville, Tennessee	-15°	-13° Feb. 1951
Lexington, Kentucky	-21°	-20° Feb. 1899
Cleveland, Ohio	-19°	-17° Jan. 1873
Cincinnati, Ohio	-19°	-17° Jan. 1936
Toledo, Ohio	-17°	-16° Feb. 1899
Louisville, Kentucky	-20°	-20° Jan. 1884

In addition, a low of -34° at Bonnieville, Kentucky, on the 24th was the lowest temperature ever recorded in that State. The previous low for Kentucky was -33° recorded at Sandyhook on February 11, 1899. Minneapolis, Minnesota, had 157 continuous hours of subzero temperatures beginning at 2 a.m. on January 18, the second longest such period on record. The longest period of subzero there was 186 hours beginning at 8 p.m., December 31, 1911, followed by 4 hours above zero and then another period of 113 hours below zero. Snow cover has prevented deep frost penetration in many areas, but the ground is frozen 3 feet deep in Iowa and 10 inches in the vicinity of Columbus, Ohio. Kansas reports frost penetration of 12 to 15 inches and 12 to 15 inches of ice on ponds. Lowest temperatures of the season reached the lower Rio Grande Valley of Texas on the 24th when readings of 19° to 24° were recorded. Lows of 15° to 18° occurred in the San Antonio and Winter Garden areas.

Little or no precipitation occurred from Texas westward through New Mexico, the Great Basin, and Pacific States, and weekly totals were generally light in the remainder of the Far West and as far east as the Great Lakes and lower Mississippi Valley. Moderate to heavy weekly totals were rather general from the western foothills of the Appalachian Mountains to the Atlantic coast and in the central Gulf coastal areas. Most of the week's precipitation preceded or accompanied cold waves early and late in the week and fell in the form of snow, except as rain, with some sleet and freezing rain in the South. Weekly totals in the East ranged from 0.50 inch up to more than an inch along the Atlantic coast. With little or no precipitation in the Far West, the mountain snowpack remained generally much below normal. During the first cold wave east of the Rockies, 4 to 6 inches of snow fell over the Ohio Valley and central Appalachians, up to 4 to 8 inches over the northern Appalachians, and much heavier amounts in Michigan, and northern portions of New York State and New England.

The weekend snowstorm was accompanied by strong winds in the northeast quarter of the Nation, and new snow ranged up to more than a foot in some northeastern areas. Reports from northern New York State indicate that last week's weather there was about as severe as any experienced during the past century. Some stations east of Lake Ontario in New York reported about 5 feet of new snow, and Watertown reported 57 inches on the ground on the morning of the 28th.

At the end of the week, snow covered the Great Plains as far south as Kansas and eastward to the Appalachians. Along the Atlantic coast, the cover extends from Maine to northern Virginia. Scattered southern stations such as Little Rock, Arkansas; Jackson, Mississippi; and Chattanooga, Tennessee, reported a trace. Depths generally range from 2 to 6 inches in the Great Plains and Midwest. In the Great Lakes region, depths as a rule exceed 6 inches and range up to 30 inches or more in northern Michigan on the lee side of the Great Lakes. In New England, the cover ranges from 25 to 40 inches in the north and 5 to 10 inches in the south, except deeper in western highlands and less near the coast. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Schizaphis (Toxoptera) graminum)* - OKLAHOMA - Populations remain generally noneconomic except for light counts in isolated spots as severe cold weather continues. Counts per linear foot, by county, were as follows: Garfield, 2-15; Logan, 1-20; Kingfisher, 1-25; Payne, 0-20; Muskogee, 3-20; Tillman, 9-13; negative in Beckham, Custer and Kiowa Counties. Very small numbers reported from Bryan County. Dead aphids found in most fields checked; all above counts made prior to sub-zero temperatures of midweek. (Okla. Coop. Sur.). GEORGIA - Light on small grain in southern portion of State. (Johnson).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - In all fields checked in Garfield, Kingfisher, Logan and Payne Counties, counts ranged 1-15 per linear foot. (Okla. Coop. Sur.).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Low counts of 3-12 per linear foot noted in fields checked in Garfield, Kingfisher, Logan, Payne and Tillman Counties. (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae)* - OKLAHOMA - Populations continue low. Counts per linear foot, by county, were as follows: Garfield, 6-7; Logan, 4-10; Kingfisher, 2-15; Payne, 0-5. (Okla. Coop. Sur.).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Counts per linear foot, by county, were as follows: Garfield, up to 20; Kingfisher, 5-10; Logan and Payne, 0-5. (Okla. Coop. Sur.).

ARMY CUTWORM (Chorizagrotis auxiliaris) - OKLAHOMA - Counts per linear foot of row, by county, were as follows: Garfield, 0.5; Logan, 1-5; Kingfisher, 0.5-4; Payne, 0-2. Occasional dead larvae found in Payne County. Heavy populations reported damaging legumes in Drummond area, Garfield County. (Okla. Coop. Sur.).

PEA APHID (Acyrthosiphon (Macrosiphum) pisum)* - OKLAHOMA - Light in alfalfa in Sequoyah, Kingfisher and Logan Counties; ranged 8-20 per square foot of crown area in Sequoyah and 5-25 in Logan County. Light counts also noted in winter peas in Garfield County. (Okla. Coop. Sur.). ARKANSAS - Very few found in legumes in northwest area; averaged less than one per square foot. (Ark. Ins. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Light on alfalfa in Payne and Kingfisher Counties. (Okla. Coop. Sur.).

FRUIT INSECTS

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - FLORIDA - Recent infestation confined to Lauderdale-by-the-Sea, Broward County, in area approximately one mile long and half mile wide; no finds have been made west of inland waterway which is one-half mile from coast. Single aerial application made over approximately 3,000 acres previous week; another application scheduled for January 25. Approximately 2,200 Steiner traps now in operation in infested area and will be converted to medlure by January 25. Three larval finds and one collection of pupae reported; no new adults trapped. (Fla. Coop. Sur.).

MEXICAN FRUIT FLY (Anastrepha ludens) - TEXAS - First male of the season taken in Hidalgo County, December 6. Total of 1,300 traps in use in Cameron, Hidalgo, Dimmit, Starr and Willacy Counties. (PPC, South. Reg.). CALIFORNIA - New lure, ENT-44,014-X, used for first time. Observations indicate this new lure will be longer-lasting and less subject to evaporation by wind and temperature. All detection for Mexican fruit fly was negative during 1962, and to date in State during 1963. (Cal. Coop. Rpt.).

*See page 84.

OMNIVOROUS LOOPER (Sabulodes caberata) - CALIFORNIA - Heavy on leaves of avocado trees in San Luis Obispo County, and medium in Carpinteria, Santa Barbara County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Population surveys in foothill breeding grounds of western San Joaquin Valley indicate overwintering leafhoppers beginning to concentrate on favorable south slopes in some areas. This is particularly true northward from Coalinga, Fresno County. In Imperial Valley, beet leafhoppers number 11 per 100 sweeps on desert annuals on west side of Valley from Mount Signal to Westmoreland, Imperial County. Winter annuals have also germinated in some abundance on east side of Imperial Valley, but no counts of beet leafhoppers possible, due to high winds. Present estimates of situations indicate treatment of 17,000 acres will be necessary during 1963. (Cal. Coop.Rpt.).

GREEN PEACH APHID (Myzus persicae) - CALIFORNIA - All stages heavy on leaves of pepper plants in Oasis, Riverside County. (Cal. Coop. Rpt.).

POPLAR PETIOLE GALL APHID (Pemphigus populitranversus) - TEXAS - Spotted, heavy infestations present on cabbage roots in Hidalgo County. None present in many fields; heavy in other fields. (Garner).

CABBAGE APHID (Brevicoryne brassicae) - GEORGIA - Light on cabbage in southern part of State. (Johnson).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - One newly infested property found in Santa Rosa County, FLORIDA. Field and storage survey in GEORGIA resulted in finding 35 infested properties; 93 properties released from regulations in the State. Infestation found in home planting in Escambia County, ALABAMA; this species had been eradicated from the county for several years. Newly infested property found in Perry County, MISSISSIPPI; several properties found in generally infested areas in Forrest, Greene, Lincoln and Walthall Counties. In Lawrence County, 9 new properties found infested. Field inspections in LOUISIANA resulted in finding 53 newly infested properties, mostly in Tangipahoa Parish. Five newly infested properties found in Cherokee County, TEXAS. (PPC, South. Reg., Dec.Rpt.).

FUNGUS GNATS - TEXAS - Heavy populations of adults of undetermined species appearing in tomato greenhouses in Limestone County. (Brown).

A SAWFLY (Metallus capitalis) - OREGON - Mined leaves of raspberries at Astoria, Clatsop County, during summer of 1962. Det. by B. D. Burks. (Goeden).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - No larvae found in lint cleaner inspections in Riverside County. ARIZONA - One larva collected in eradication area through December 31. NEW MEXICO - Surveys in Pecos River Valley in southern Eddy County showed considerable damage in several fields. Lint cleaner inspections indicated substantial increase in populations in Pecos River Valley in Chaves and Eddy Counties, and in Lea and Roosevelt Counties located east and north of this Valley along eastern side of State. Lint cleaner surveys in Sierra and Dona Ana Counties in Rio Grande Valley, and in Luna, Otero and Hidalgo Counties, indicate lightest infestations in several years. (PPC, West. Reg., Dec. Rpt.). Cold temperatures have killed larvae in bolls in fields with standing cotton stalks in southern Eddy County; 40 percent of larvae in fields near Malaga, Eddy County, dead. (N. M. Coop. Rpt.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

GYPSY MOTH (Porthetria dispar) - Additional egg clusters found on firewood, nursery stock and deciduous growth on peripheries of nurseries in CONNECTICUT and MASSACHUSETTS. Two small concentrations of egg clusters in Orleans, Jefferson County, NEW YORK, located south of area infested in 1961; one concentration of 17 new egg masses and several old, located 0.4 mile distant,and one of 5 new and 1 old egg mass located 0.75 mile distant. Appraisal scouting of last summer's positive trapsites in New York continued; additional small infestations found at 4 sites in Rockland County, bringing county total to 6. (PPC, East. Reg., Dec. Rpt.).

BROWN-TAIL MOTH (Nygmia phaeorrhoea) - MASSACHUSETTS - All scouting on Plum Island and adjacent areas negative to date. (PPC, East. Reg., Dec. Rpt.).

EUONYMUS SCALE (Unaspis euonymi) - CALIFORNIA - Adults heavy on Euonymus sp. locally in Sacramento, Sacramento County. (Cal. Coop. Rpt.). OKLAHOMA - Medium on euonymus in Greer County. (Okla. Coop. Sur.). MARYLAND - Moderate on euonymus at Baltimore. (U Md., Ent. Dept.).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Until recently this species, with 16-year history in Stockton, San Joaquin County, appeared limited to few light spot infestations; however, is now spreading rapidly and increasing in severity. Privet appears to be particularly susceptible to attack. (Cal. Coop. Rpt.).

TEA SCALE (Fiorinia theae) - TEXAS - Heavy numbers attacking local camellia plantings in Harris County. (Dial). FLORIDA - Moderate on camellia at New Smyrna Beach, Volusia County (Jan. 14), and at Gainesville, Alachua County (Jan. 15); on Ilex sp. at Lakeland, Polk County (Jan. 16); and on camellia at Lake Helen, Volusia County (Jan. 18). (Fla. Coop. Sur.).

A WAX SCALE (Ceroplastes sp.) - NORTH CAROLINA - Infested spirea twig, as well as azaleas, nandinas and camellias, at a locality in Wake County. (Robertson).

Coccids in California - During past 15 years, Asterolecanium arabidis has shown decline in Stockton area, San Joaquin County. Twig distortion of privet and Pittosporum tobira was common in area during past years. Current observations show no infestations on privet and only light infestation of P. tobira. Pseudococcus microcirculus heavy on limited number of cattleya orchids in an orchidhouse in Larkspur, Marin County. This species is not known to occur in the State and is subject to eradication. Pseudococcus adonidum medium on citrus and heavy on oleander in San Simeon, San Luis Obispo County. Aspidiotus densiflorae light on leaves of oaks in San Simeon. Protopulvinaria pyriformis medium on limited number of gardenia plants and light on Saxifraga sp. in Brentwood, Los Angeles County; species subject to eradicative treatment. (Cal. Coop. Rpt.).

Coccids in Florida - Aspidiotus lataniae moderate on Ilex sp. at Clearwater, Pinellas County (Jan. 9). Asterolecanium bambusae and A. miliaris miliaris moderate on 4 clumps of bamboo at Winter Haven, Polk County (Jan. 15). Asterolecanium puteanum moderate on Ilex sp. at Clearwater (Jan. 9). Ceroplastes ceriferus severe on 50 Podocarpus nagi at Winter Haven (Jan. 14). Ceroplastes floridensis light on 25 Coccoloba uvifera at North Miami, Dade County (Jan. 8); general on 4 Ilex sp. at Lakeland, Polk County (Jan. 16); severe on 26 Ilex cornuta var. burfordii at Daytona Beach, Volusia County (Jan. 18). Coccus hesperidum light on 10 Nephthytis sp. at Pierson, Volusia County (Jan. 17), and severe on one Magnolia virginiana at Winter Haven (Jan. 18). Diaspis boisduvalli severe on 2 orchids at Holly Hill, Volusia County (Jan. 17), and moderate on orchids at Winter Haven (Jan. 17). Eucalymnatus tessellatus moderate on Syzygium jambos at Ft. Lauderdale, Broward County (Jan. 10). Phenacaspis cockerelli infested Chamaerops humilis and Magnolia grandiflora at Gainesville, Alachua County (Jan. 11); severely infested M. grandiflora at Winter Haven (Jan. 14); infested

Magnolia sp. at Vero Beach, Indian River County (Jan. 16). Pseudaulacaspis pentagona severely infested Ligustrum amurense at Apopka, Orange County (Jan. 17), and was moderate on L. vulgare at Pierson (Jan. 17). Saissetia hemisphaerica severely infested Zamia floridana at Fort Meade, Polk County (Jan. 16). (Fla. Coop. Sur.).

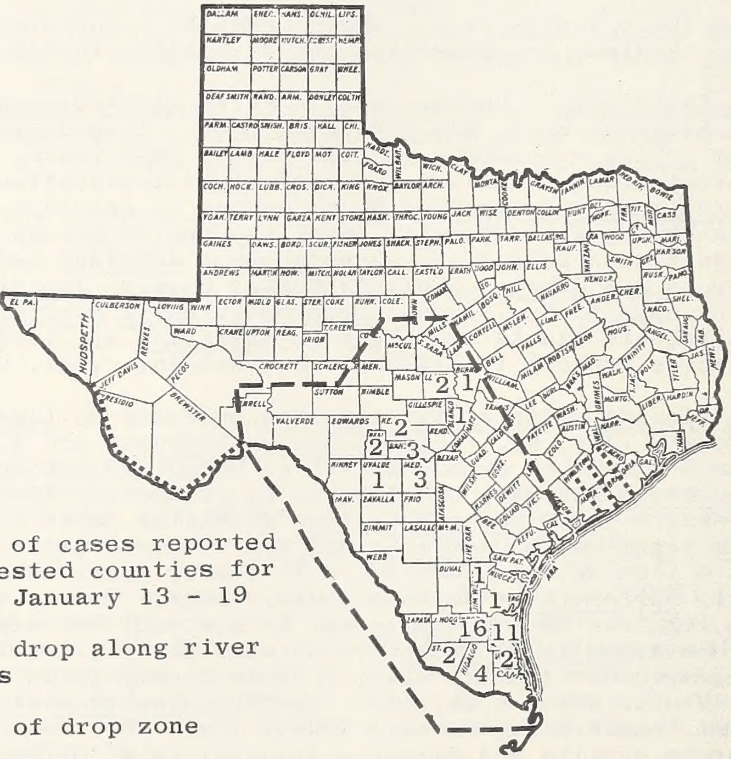
AN ERIOPHYID MITE (Trisetacus quadrisetus) - OREGON - Damaged ornamental juniper at a nursery in Troutdale, Multnomah County, in late November. Det. by H. H. Keifer. (Larson).

A SNAIL (Vallonia pulchella) - CALIFORNIA - Heavy populations occurring in dichondra lawns in Lakeside, San Diego County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

Cold weather continues to assist screw-worm eradication efforts through a succession of cold waves which have penetrated deeply into Texas. Fifty-three specimens were received this week, all of which were oviposited prior to the cold wave on January 13. Infestations being reported are declining each day. It is anticipated that the small populations able to survive the cold weather will be overwhelmed by sterile flies released over southern Texas. A total of 46,695,150 sterile screw-worm flies was released during the period January 13-19, with 53 screw-worm cases being reported during the same period. (Anim. Dis. Erad. Div.)



Figures - Number of cases reported in infested counties for period January 13 - 19

.... - Linear drop along river valleys

▬ ▬ ▬ - Limits of drop zone

COMMON CATTLE GRUB (Hypoderma lineatum) - ARKANSAS - Averaged 3 per head (ranged 0-13) on treated cattle and 13.4 per head (ranged 0-30) on untreated cattle in Sharp County, north central. (Barnes). OKLAHOMA - Activity continues throughout State; counts per head ranged 10-35 in Washita, 10 in Greer and 0-15 in Tillman Counties. (Okla. Coop. Sur.).

HOUSE FLY (Musca domestica) - TEXAS - Adults becoming pestiferous in homes and offices in Brazos County. (Newton).

HOG LOUSE (Haematopinus suis) - OKLAHOMA - Activity continues across State; infestations range light to medium in Cotton, Stephens and Bryan Counties. (Okla. Coop. Sur.).

CATTLE LICE - ARKANSAS - None found on cattle checked in Sharp County, north central. (Barnes). OKLAHOMA - Populations of several species increasing across State; light to heavy infestations reported from Pushmataha, Greer, Cotton, Stephens, Washita, Hughes, Bryan and Payne Counties. (Okla. Coop. Sur.).

MEALWORMS - UTAH - These pests and adults of dermestids numerous in poultry houses at Spanish Fork, Utah County. (Knowlton, Acord).

LONE STAR TICK (Amblyomma americanum) - ARKANSAS - Engorged adults found at rate of less than one per head on cattle in Sharp County, north central. (Barnes).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - Reported heavy on cattle in Pauls Valley area, Garvin County; light counts noted on cattle in Pushmataha County. (Okla. Coop. Sur.).

CHICKEN MITE (Dermanyssus gallinae) - OKLAHOMA - Reported heavy on poultry in Stephens County. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

DRUGSTORE BEETLE (Stegobium paniceum) - OKLAHOMA - Causing some concern to homeowners in Stillwater area, Payne County. (Okla. Coop. Sur.).

RICE WEEVIL (Sitophilus oryzae) - NORTH CAROLINA - Adults about lights in home in Rowan County. (W. P. Smith).

ELM LEAF BEETLE (Galerucella xanthomelaena) - MARYLAND - Adults caused a nuisance in home at Rock Hall, Kent County. (U. Md., Ent. Dept.).

OLD-HOUSE BORER (Hylotrupes bajulus) - MARYLAND - Infesting floor joists in home at Emmitsburg, Frederick County. (U. Md., Ent. Dept.).

CLOVER MITE (Bryobia praetiosa) - NORTH CAROLINA - Abundant on window sills of home in Durham County. (W. F. Wilson).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - New infestations at University of Florida, Gainesville, Alachua County, FLORIDA, treated. Approximately 120 acres of seedbed nursery treated at Bartow, Polk County. Specimens collected in Baker County where infestation was thought to have been eradicated. Inspection of treated area in City of Savannah, GEORGIA, negative in main part of city, but a few mounds found in outer area. Active mounds found in several locations in City of Columbus. Surveys in Pierce, Ware and Liberty Counties, Georgia, negative.

Found for the first time in Beaufort County, SOUTH CAROLINA. Survey in Carteret County, NORTH CAROLINA, shows some extension of infested area. Surveys in 16 counties in TENNESSEE negative during December. Appraisal survey on several treated areas continues to show good results in ALABAMA. Isolated infestations in Limestone and Morgan Counties treated. Survey in Washington County, MISSISSIPPI, continues to enlarge known area of infestation; about 75 sections now involved. Survey in Ashley County, ARKANSAS, resulted in new county record. A few active mounds found in treated area in Union County. Appraisal surveys in treated blocks in north LOUISIANA very encouraging; no specimens found in treated block in Red River Parish. Collection made for the first time in Polk County, TEXAS. Extensions of infested areas found in Harris and Bexar Counties. (PPC, South. Reg., Dec. Rpt.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - Small acreages treated in East Baton Rouge and St. Tammany Parishes, LOUISIANA. Treatment completed in infested area in Burdett, Mississippi County, ARKANSAS. Treatment made in areas in Shelby, Hardeman and Carroll Counties, TENNESSEE. Treatment accomplished on approximately 800 acres in Baldwin County, ALABAMA; small acreages treated in other areas throughout the State. Treatment of infested area of Decatur County, GEORGIA, adjacent to the Florida-Georgia State line completed. Additional acreage treated in Houston, Bibb, Bleckley, Sumter and Wilcox Counties. (PPC, South. Reg., Dec. Rpt.).

JAPANESE BEETLE (Popillia japonica) - Soil treatment completed on approximately 5 square miles of residential area of St. Louis, MISSOURI. Hand treatment of 67 acres in Monroe County, and 128 acres in Lenawee County, MICHIGAN, completed. (PPC, Cent. Reg., Dec. Rpt.).

A SCARAB (Ceratophyus sp.) - CALIFORNIA - Activity particularly noticeable in lawns of new model homes at Vandenburg Village, Vandenburg AFB, Santa Barbara County; 20-30 mounds made in new lawns. Only few mounds have been made in golf course. Winter rains may activate beetle populations. (Cal. Coop. Rpt.). See CEIR 12(7):85 and CEIR 12(10):166.

BOXELDER BUG (Leptocoris trivittatus) - MARYLAND - Caused a nuisance in a community in Baltimore. (U. Md., Ent. Dept.).

TERMITES - FLORIDA - Prorhinotermes simplex and Reticulitermes hageni collected at Ft. Lauderdale, Broward County (Jan. 18), by F. P. Clements. Det. by L. A. Hetrick. (Fla. Coop. Sur.).

ARMYWORM (Pseudaletia unipuncta) - FLORIDA - Single moth collected in blacklight trap at Gainesville, Alachua County, January 22. (Fla. Coop. Sur.).

SUMMARY OF INSECT CONDITIONS IN SOME COUNTRIES OF THE NEAR EAST AND AFRICA

1962

The seven summaries of insect conditions that follow have been submitted in the 1962 Annual Report of the Regional Insect Control Project, with headquarters in Beirut, Lebanon. The first attempt to present information on the more important insect pests of the Near East in the Cooperative Economic Insect Report was made in 1955 following a request from the survey committee of the Entomological Society of America. For the benefit of CEIR readers, it may be well to point out that the Regional Insect Control Project is a cooperative program operated by the Plant Pest Control Division, Agricultural Research Service, in accordance with an agreement signed on February 18, 1954, between the U. S. Department of Agriculture and the International Cooperation Administration (now Agency for International Development). At the present time, a staff of ten entomologists are stationed in eight countries working with the personnel of the U. S. Operations Missions and Ministries of Agriculture.

The work of these entomologists is designed to fulfill commitments to the host countries, with respect to the evaluation of locust problems, the demonstration of control practices, development of insect surveys and the training of nationals in methods, procedures and the organization of applied entomology and plant quarantine work. During the last few years the Ministries of Agriculture have strengthened their Plant Protection organizations. Insect survey operations were strengthened through the assignment of Joseph W. Gentry as survey specialist to the project headquarters in Beirut. Mr. Gentry has kindly reviewed and edited the 1962 summaries. An increased effort has been made to collect, identify and record pest species of economic importance. Firsthand information on foreign pests should serve to familiarize the entomologist and the pesticide industry of the United States with the major pests in the areas reported on. It should lead to better understanding and mutual interest in the entomological problems common to the United States and other nations. (Edson J. Hambleton, Assistant to the Director (Foreign Technical Programs), Plant Pest Control Division, ARS, USDA, Washington 25, D. C.).

- - - - - - - - - - - - - - - - - - - -

Summary of Insect Conditions in Turkey

Prepared by Flournoy M. Philips

Cereal and Forage Insects: A PENTATOMID (Aelia sp.) caused less damage to wheat in the central and western Anatolian Plains in 1962 than in previous years; over 50,000 acres were treated, however. SENN PEST (Eurygaster integriceps) was of little or no importance, with only 2,000 acres being treated as the insect migrated from the mountains. CEREAL LEAF MINER (Syringopais temperatella) caused moderate to heavy damage on wheat in isolated areas throughout the cereal-growing areas of Turkey. DESERT LOCUST (Schistocerca gregaria) migrated into Turkey from Iraq and Syria necessitating the treatment of approximately 15,000 acres of wheat and other cereals in parts of 6 provinces in southeastern Turkey. ALFALFA WEEVIL (Hypera postica) caused moderately heavy damage in extreme eastern Turkey and in one province in the western Anatolian Plains. ITALIAN LOCUST (Calliptamus italicus), MOROCCAN LOCUST (Dociostaurus maroccanus) and MIGRATORY LOCUST (Locusta migratoria) were light to moderate throughout Turkey and caused little or no damage. An APHID (Cuernavaca noxius) caused heavy damage to wheat and barley in the Konya area.

Fruit Insects: CODLING MOTH (Carpocapsa pomonella) infested as high as 89 percent of the apples in the Nidge-Eregli area where one or less treatments were performed, and infested from less than 1 percent of the apples in orchards that had eight sprays at regular intervals to 45 percent in orchards with a lesser number of sprays. A SPIDER MITE (Tetranychus sp.) caused heavy damage to apples in the Nidge area and light to moderate damage in other apple-growing areas. A HYPONOMEUTID (Hyponomeuta sp.) caused almost complete defoliation of apple trees in the Cankiri area where treatments were not applied. EUROPEAN CHERRY FRUITFLY (Rhagoletis cerasi) caused about 25 percent damage to the cherry crop in the southern and western Anatolian Plains. Over 250,000 peach and apricot trees were treated for ORIENTAL FRUIT MOTH (Grapholitha molesta) in the Bursa area. A COCCID (Diaspis sp.) caused a moderate amount of damage to peach and mulberry trees in the Istanbul-Bursa area. Another COCCID (Ceroplastes sp.) caused a little damage to the fig crop in the Aegean coastal area. MEDITERRANEAN FRUIT FLY (Ceratitis capitata) infested less than 5 percent of the citrus crop on the Mediterranean coast. CITRUS RUST MITE (Phyllocoptruta oleivora) caused moderate to heavy damage in the Adana Plains area on citrus. OLIVE FRUIT FLY (Dacus oleae) reportedly infested up to 30 percent of the olive crop in the Bursa-Gemlik area, and OLIVE MOTH (Prays oleellus) was so heavy in the Aegean coastal region that the Ministry of Agriculture treated nearly five million olive trees in an attempt to control it. BLACK SCALE (Saissetia oleae) caused moderately severe damage in the Gemlik area and light damage in Istanbul and Bursa. VINE MOTH (Lobesia botrana) was reportedly light to moderate on grapes throughout the grape-growing areas of Turkey. An ARCTIID CATERPILLAR (Arctia sp.) was moderate on grapes in the Gaziantep-Kayseri-Konya area.

Truck Crop Insects: A CUTWORM (Agrotis sp.) caused a great deal of damage to cabbage and tomatoes in the Marmara Sea area. A MOLE CRICKET (Gryllotalpa sp.) inflicted light damage to truck crops and ornamentals in the central Anatolian Plains. The BALUCHISTAN MELON FLY (Myiopardalis pardalina) lightly damaged melons in the Kayseri-Nevsehir-Kirsehir area. TWELVE-SPOTTED MELON BEETLE (Epilachna chrysomelina) caused moderate damage in the Diyarbakir and Sakarya areas.

Cotton Insects: SPINY BOLLWORM (Earias insulana) was light on cotton in the Adana Plains area and was reported to be light to moderate in the Diyarbakir area. PINK BOLLWORM (Pectinophora gossypiella) was estimated to have caused less than 4 percent damage to the cotton crop in the Izmir region and as much as 6 percent in the Adana Plains area. OLD WORLD BOLLWORM (Heliothis armigera) caused localized heavy damage in the Adana area, and a SPIDER MITE (Tetranychus sp.) was moderately damaging to cotton in the Adana area. Light to moderate damage to cotton was caused by COTTON APHID (Aphis gossypii) in Adana and the Aegean coastal areas.

Stored-products Insects: Until May of 1962, the Ministry of Public Health in Turkey would not allow the Plant Protection General Directorate to treat stored grains for the control or prevention of stored-product insects. In May, after considerable debate between the two Ministries, it was finally decided to allow treatment based on the allowable tolerances as set forth in the USDA Summary of Registered Agricultural Pesticide Chemical Uses. KHAPRA BEETLE (Trogoderma granarium) was found in grain storage in Ankara in May, and CONFUSED FLOUR BEETLE (Tribolium confusum) was present in many areas throughout Turkey.

Miscellaneous Pests: A TEA SCALE (Pulvinaria floccifera) remained light on tea in the Black Sea area, but BLACK CITRUS APHID (Toxoptera aurantii) caused a moderate amount of damage on tea in Artvin, Trabzon and Rize Provinces.

Summary of Insect Conditions in Iran

Prepared by T. E. Gilliland
and G. Farahbakhsh

Cereal and Forage Insects: DESERT LOCUST (*Schistocerca gregaria*) was very heavy in the Central Ostans (Provinces) and in Kermanshah, Khuzistan, Khurasan, Kerman and Fars Ostans. The Iranian Government carried on both aerial and ground control. The U. S. furnished five Cessna 185's, with pilots, to assist with this project. The effective control campaign reduced the damage to less than five percent. A total of 6,175,000 acres was reported to have been treated. MOROCCAN LOCUST (*Dociostaurus maroccanus*) was lighter than normal in Gurgan, Shiraz, Kermanshah and some other areas. Some damage to seedling crops was reported. A total of 172,000 acres was reported treated. *Calliptamus* spp. grasshoppers were normal. SENN PEST (*Eurygaster integriceps*) was heavy in Isfahan, Kermanshah and Ghazvin. Damage was more than usual in these areas. Chemical controls were applied on 98,800 acres. The biological control program was not very effective this year due mostly to a reduced amount of rearing activity. Outbreaks of an ARMYWORM (*Pseudaletia* sp., probably *unipuncta*) occurred on rice in the Caspian Sea area. About 500 acres were severely damaged, but the infestation was generally spotted. DURRA STALK BORER (*Sesamia cretica*) was light on corn in Tehran area. ALFALFA WEEVIL (*Hypera postica*) was the main problem on alfalfa, being heavy and warranting controls in the Tehran area.

Citrus Insects: In the Caspian area, PURPLE SCALE (*Lepidosaphes beckii*) was heavy. BLACK PARLATORIA SCALE (*Parlatoria zizyphus*) was very light but increasing in some areas. BROWN SOFT SCALE (*Coccus hesperidum*) was heavy in some areas with much sooty mold being evident, especially at Ramsar and Pahlavi. GRAPE MEALYBUG (*Pseudococcus maritimus*) was heavy at Lahijan, Ramsar and Babulsar, the latter being a new area of developing infestation. A new area of infestation of *Pulvinaria aurantii* was found at Babulsar. CHAFF SCALE (*Parlatoria pergandii*) was increasing at Babul. CITRUS RUST MITE (*Phyllocoptruta oleivora*) and CITRUS RED MITE (*Panonychus citri*) were very heavy. CALIFORNIA RED SCALE (*Aonidiella aurantii*) was increasing at Ramsar and Shahsavar. YELLOW SCALE (*Aonidiella citrina*) was increasing in Babulsar and Babul.

Olive Insects: BLACK SCALE (*Saissetia oleae*) - An encyrtid parasite (*Aphycus helvolus*) of this scale insect has apparently not become established in the Rudbar area probably due to chemical control and climatic conditions. In the Ramsar area, however, attempts to introduce and establish it have been successful. Other species of encytrids are needed in this area to increase the effectiveness of the biological control. OLIVE SCALE (*Parlatoria oleae*) was very light, parasites being active. OLIVE PSYLLID (*Euphyllura olivina*) was usually not heavy, but in some areas as much as 20 percent fruit loss was noted.

Deciduous Fruit Insects: OYSTERSHELL SCALE (*Lepidosaphes ulmi*) was very heavy, especially in Tehran area; and PEAR LACE BUG (*Stephanitis pyri*) was also very heavy, with severe damage noted at Veramin, especially on apple. WOOD BORERS were unusually heavy, with many reports in the Tehran area. LEOPARD MOTH (*Zeuzera pyrina*) was the major species involved, but SHOT-HOLE BORER (*Scolytus rugulosus*) was also very damaging in some areas. Damaging infestations of OLIVE SCALE were prevalent. A FRUIT-TREE MITE (*Bryobia rubrioculus*) was unusually heavy in the dry season. CODLING MOTH (*Carpocapsa pomonella*) was normal on apples.

Pistachio Insects: COCCIDS (*Lepidosaphes pistaciae* and *L. pistacicola*) were very heavy, especially in Kerman area. PISTACHIO PSYLLID (*Agonoscena targionii*) was damaging in the Kerman and Rafsinjan areas.

Date Insects: LESSER DATE MOTH (*Batrachedra amydraula*) was found attacking newly formed dates in southern area of Iran -- Persian Gulf Coast. GREATER DATE MOTH (*Arenipses sabella*) attacked pollen sacs on date palms.

Vegetable Insects: CABBAGE APHID (*Brevicoryne brassicae*) infestation on crucifers was about normal. CABBAGEWORMS were the main pests of crucifers at Veramin in September. *Pieris* spp., *Plutella maculipennis* and *Hellula undalis* were involved. MELON APHID (*Aphis gossypii*) infestations were about normal on melons. The main pests of melons were BALUCHISTAN MELON FLY (*Myiopardalis pardalina*) and TWELVE-SPOTTED MELON BEETLE (*Epilachna chrysomelina*). CUTWORMS (*Agrotis* sp.) were severe in the Caspian Sea area. TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) caused severe damage to beans at Karaj. ONION THRIPS (*Thrips tabaci*) was also heavy. A SUGAR-BEET CROWN BORER (*Gnorimoschema ocellatella*) was very serious on sugar beets. *Lixus* weevils also caused damage, but were not as heavy as the crown borer. Infestations of BEET ARMYWORM (*Spodoptera exigua*) were considered normal. APHIDS, mostly *Aphis fabae*, were damaging on beans.

Cotton Insects: SPINY BOLLWORM (*Earias insulana*) required controls in the southern region. OLD WORLD BOLLWORM (*Heliothis armigera*) was very heavy in the Caspian Sea area, requiring controls. MITES were also a problem with medium infestations at Khurasan. THRIPS infestations were normal. LEAFHOPPERS (*Empoasca* spp.) and APHIDS were heavy and causing damage in the Veramin area in September.

Tobacco Insects: Infestations of *Heliothis armigera* were above normal in buds, and GREEN PEACH APHID (*Myzus persicae*) was heavy.

Forest and Shade Tree Insects: ELM LEAF BEETLE (*Galerucella xanthomelaena*) was unusually heavy in the Caspian Sea area on alder and damaging to this species and elm in other areas. Another CHRYSOMELID (*Plagiodera* sp.) was also heavy on these trees in the Caspian Sea area. FLATHEADED WOOD BORERS (*Capnodis* spp.) were medium to heavy on poplars in Tehran area. *Capnodis miliaris* caused heavy damage in the central area. EUROPEAN ELM SCALE (*Gossyparia spuria*) was medium to severe in the Tehran area, and a WHITEFLY (*Siphoninus granati*) continued heavy on ash in the same area.

Stored-product Insects: Infestations of GRAIN INSECTS were about normal, with KHAPRA BEETLE (*Trogoderma granarium*), RICE WEEVIL (*Sitophilus oryzae*) and GRANARY WEEVIL (*S. granarius*) being the most damaging species.

Summary of Insect Conditions in Afghanistan

Prepared by E. R. Millet

Cereal and Forage Insects: WEEVILS (*Hypera* sp. and *Sitona* sp.) were again extremely light, only an occasional specimen, in alfalfa in the Kabul area in early September. ALFALFA WEEVIL (*Hypera postica*) and *H. brunneipennis* were identified from Afghanistan collections by the Museum National d'Histoire Naturelle, France, during the year. SWEETCLOVER APHID (*Therioaphis riehmi*) and COWPEA APHID (*Aphis craccivora*) were also extremely light in alfalfa, with only one or two specimens per sweep being found. SENN PEST (*Eurygaster integriceps*) and a STINK BUG (*Aelia melanota*) were again light in the wheat areas at Qaisar and Maimana this past spring and no control was merited. In the Kabul area, wheat was moderately infested by several species of APHIDS, and a THRIPS (*Haplothrips tritici*) was numerous on the heads of wheat in the same area. MIRIDS, probably *Deraeocoris punctulatus*, ALFALFA PLANT BUG (*Adelphocoris lineolatus*) and *Lygus gemellatus*, were noted in alfalfa near Kabul, but no extremely heavy infestation was observed. They were all taken in sweepings.

Locusts: In 1962, Afghanistan had the heaviest invasion of DESERT LOCUST (*Schistocerca gregaria*) in almost thirty years. Yellows and dark reds appeared along the eastern frontier as early as late December 1961, and early January 1962. Egg deposition began in mid-March, hatching in April, and fledging in mid-May. Large areas of southern and western Afghanistan were infested. Infestations also occurred up to 40 miles north and 100 miles west of Kabul in mountainous areas up to 8,000-foot elevations. This is unusual for Afghanistan. There were an estimated 150,000 to 190,000 acres of egg beds and hatching sites established in March and April. Control, apparently 85 percent effective, was applied on an estimated 375,000 acres of "hoppers" (pinks and yellows) from April to mid-August. Considerable damage was done to alfalfa, mulberry and windbreak trees in the Helmand Valley. Damage to cotton and other crops was very light. An ITALIAN LOCUST (*Calliptamus* sp.) and MOROCCAN LOCUST (*Dociostaurus maroccanus*) were again light in the northern provinces, with only a two weeks' campaign against these pests. A local GRASSHOPPER (*Chrotogonus trachypterus*) was again numerous and caused much damage to vegetables in Lashkar Gah.

Fruit Insects: CODLING MOTH (*Carpocapsa pomonella*) was widespread on apples in Afghanistan this year and caused heavy damage. ERMINE MOTH (*Hyponomeuta padella*) was also very destructive to apples, apricots and almonds throughout the areas where these fruits are grown. APHIDS were heavy on all fruit trees in Afghanistan, particularly on peaches. An APHID (*Pterochlorus persicae*) was extremely heavy again this year at Coriz-i-Mir, sometimes covering peach limbs for several inches. An extremely heavy MITE infestation, species probably *Bryobia rubrioculus*, was noted on several apple trees at the Paghman forest nursery. A COCCID (*Lecanium unifasciatum* - tentative determination) was also numerous on peaches in the Kabul area. A CECIDOMYIIDGALL (*Odinadiplosis*, probably *amygdali*) was again exceedingly heavy and caused abnormal growth and rosetting of buds of peaches at Coriz-i-Mir. Larvae were observed in July, and some pupation began in August. It is believed that there must be only one generation a year of this pest, with the adults emerging from old growth in early spring and infesting young, tender growth at that time. Thus far, collection of adult specimens has been unsuccessful.

Vegetable Insects: CUTWORMS and WIREWORMS were reported doing considerable damage to sugar beets in Kataghan Province. MELON FLY (*Dacus cucurbitae*) was not as heavy as last year in the Jalalabad area; at least at the Ministry farm where two treatments were applied to all vegetables and truck crops. Only about 10 percent infestation was reported in the melon and cucumber crops. This pest was also collected from melons near Paghman this year. The BALUCHISTAN MELON FLY (*Myiopardalis pardalina*) was not as heavy in cantaloups and sweet melons, as in 1961. Infestation was estimated at about 10 percent. The same holds true for a WEEVIL (*Baris*, probably *granulipennis*) in watermelons which developed an infestation of only about 5 percent in 1962. BEAN APHID (*Aphis fabae*) on beets, and CABBAGE APHID (*Brevicoryne brassicae*) on cabbage and mustard, were again heavy in gardens in the Helmand Valley.

Citrus Insects: CITRUS WHITEFLY (*Dialeurodes citri*) and YELLOW SCALE (*Aonidiella citrina*) were heavy in groves at Jalalabad, with the latter being especially heavy at Laghman. The CITRUS PSYLLA (*Diaphorina citri*) was extremely heavy in Laghman in early March, with as many as six adults on new sprouts of orange trees.

There was a very low population in Jalalabad at this time, but it was moderate in mid-summer. A LEAF MINER (probably *Phyllocnistis citrella*) was observed as heavy on new growth of young citrus nursery stock in Jalalabad in early August.

Cotton Insects: CUTWORMS (*Agrotis* sp.), APHIDS, and LEAFHOPPERS (probably *Empoasca decipiens* and *E. decedens*) were reported as important in cotton in Kataghan Province. Considerable control was conducted against these pests in this area. SPIDER MITES (*Tetranychus* spp.) were light on cotton in the Helmand Valley. SWEETPOTATO WHITEFLY (*Bemisia tabaci*) was light in the Helmand Valley in July, but was reported as heavy in plots at the research farms at Marja and Bolen in September. SPINY BOLLWORM (*Earias insulana*) and PINK BOLLWORM (*Pectinophora gossypiella*) were both normal in the Jalalabad area. *E. insulana* was light in the Helmand Valley this year.

Forest and Shade Tree Insects: WOOD BORERS (*Aeolesthes sarta* and *Capnodis cariosa*) continue to be destructive to the elm trees along streets in Kabul. Many fully grown elm trees continue to die from the ravages of these pests. Willows and poplars are also attacked.

Ornamental Insects: ROSE APHID (*Macrosiphum rosae*) was heavy on roses in Kabul this summer. Small WHITE GRUBS did heavy damage to roots of newly planted roses in Kabul in April

Stored-grain Pests: KHAPRA BEETLE (*Trogoderma granarium*) larvae were found extremely heavy on walls at edge of bulk wheat in storage houses at Marja and Grishk in the Helmand Valley during the summer. Other pests observed in stored wheat were GRANARY WEEVIL (*Sitophilus granarius*), RICE WEEVIL (*S. oryzae*) and RED FLOUR BEETLE (*Tribolium castaneum*).

Man, Animal and Household Insects: TICKS were annoying to cattle on the Ministry farm at Kabul, and there was also a heavy infestation of a FOWL TICK (probably *Argas* sp.) in the chicken houses of the Ministry farm. HOUSE FLY (*Musca domestica*) and MOSQUITOES (*Aedes* spp. and *Culex* spp.) were heavy in Lashkar Gah during the summer months; however, they were light in Kabul. A COCKROACH (*Shelfordella* sp.) was lighter in 1962 than the previous year. The pest migrates into houses. A LOUSE FLY (*Hippobosca longipennis*) was again quite annoying to dogs.

Summary of Insect Conditions in Morocco

Prepared by G. E. Cavin

Cereal and Forage Insects: No invasions of the DESERT LOCUST (*Schistocerca gregaria*) occurred in 1962. Morocco has now been free of the desert locust since February 1961. A buildup of MOROCCAN LOCUST (*Dociostaurus maroccanus*) in the vicinity of Debdou and El Aouina necessitated control measures on 7,700 hectares. Populations of PENTATOMIDS (*Aelia* spp. and *Eurygaster* spp.) were generally low. Some slight damage was reported in the Fez-Meknes area. HESSIAN FLY (*Phytophaga destructor*) caused severe damage to soft wheat fields in many areas during the early spring. A heavy attack on corn, sorghum and alfalfa by BEET ARMYWORM (*Spodoptera exigua*) occurred throughout the Rharb Plain and at Casablanca in May and June. DURRA STALK BORER (*Sesamia cretica*) was heavy on corn near Agadir, sorghum at Tangier and Sudan grass at Kenitra in August.

Citrus Insects: A heavy attack of MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) occurred in the Souss Valley in the spring. CALIFORNIA RED SCALE (*Aonidiella aurantii*) continued to be the most serious citrus pest. New infestations were found in several locations, but all were isolated and no appreciable extension of the general infested area occurred. GLOVER SCALE (*Lepidosaphes gloverii*) was heavy on oranges and pomelos at Kenitra in April. DICTYOSPERMUM SCALE (*Chrysomphalus dictyospermi*) was light on tangerines at Pt. Bouchita. BROWN SOFT SCALE (*Coccus hesperidum*) was abundant on young citrus plantings at Kenitra and Marrakesh in August and September. COTTONY-CUSHION SCALE (*Icerya purchasi*) was generally light, but widespread on oranges and tangerines. CITRUS MEALYBUG (*Pseudococcus citri*) and CITRUS BUD MITE (*Aceria sheldoni*) were common at Zaio. A light infestation of TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) was observed at Kenitra in August. FLORIDA RED SCALE (*Chrysomphalus aonidum*) was light but general throughout most of the Rharb Plain. BLACK CITRUS APHID (*Toxoptera aurantii*) infested oranges at S. Aissa in May.

Grape Insects: Grapes were attacked by a THRIPS (*Retithrips syriacus*) near Marrakesh in September. GRAPE ERINEUM MITE (*Eriophyes vitis*) was serious at Kenitra in April. A SPHINGID (*Celerio lineata livornica*) was found occasionally in the vicinity of Beni Amar in May. A FLEA BEETLE (*Altica lythri ampelophaga*) was found in one vineyard at Oujda. GRAPE PHYLLOXERA (*Phylloxera vitifoliae*) and a MEALYBUG (*Pseudococcus* sp.) were also reported, the latter being heavy at Moghrane.

Olive Insects: In April and May, BLACK SCALE (*Saissetia oleae*), a WEEVIL (*Brachyrhinus cribricollis*), a BLISTER BEETLE (*Zonabris oleae*) and OLIVE MOTH (*Prays oleellus*) were common at Midar and Zaio; and OLIVE PSYLLID (*Euphyllura olivina*) was common at Zaio in July. OLIVE FRUIT FLY (*Dacus oleae*) was general throughout the olive-growing area, the attack increasing in September in the Mediterranean areas.

Miscellaneous Fruit Insects: CODLING MOTH (*Carpocapsa pomonella*) was common in peach and apple orchards throughout the Rif and Middle Atlas Mountains and on the plain at Fez and Meknes in August. A severe outbreak of PEACH BUPPRESTID (*Capnodis tenebrionis*) occurred in stone fruits and mulberry at Sefrou in August and September, and MEDITERRANEAN FRUIT FLY (*Ceratitis capitata*) attacked late pears at Kenitra. Extensions of the areas of date palms infested with PARLATORIA DATE SCALE (*Parlatoria blanchardi*) were found at Ksar-es-Souk, Erfoud and Goulimine.

Vegetable Insects: Adults of a CHAFER (*Rhizotrogus* sp.) damaged peas at Marrakesh in February. BEET ARMYWORM (*Spodoptera exigua*) caused severe damage to peppers at Casablanca and was widespread on the Rharb Plain on sugar beets, peppers, artichokes and tobacco. A BEET CURCULIONID (*Lixus junci*) and a SUGAR-BEET CROWN BORER (*Gnorimoschema ocellatella*) caused severe damage to sugar beets at Nodor and Sidi Slimane. In May, TWELVE-SPOTTED MELON BEETLE (*Epilachna chrysomelina*) was heavy on squash at S. Yahia du Rharb and an APHID (*Aphis* sp.) was heavy on broadbeans at Kenitra. A CORN EARWORM (*Heliothis armigera*), TURNIP MOTH (*Agrotis segetum*), SILVER-Y MOTH (*Autographa gamma*), and a SPHINGID (*Celerio lineata livornica*) were general on most vegetable crops throughout the Mediterranean coastal areas. A NEMATODE (*Meloidogyne* sp.) caused some damage to tomatoes at Ben Achen in May.

Cotton Insects: Populations of SPINY BOLLWORM (*Earias insulana*) and PINK BOLLWORM (*Pectinophora gossypiella*) were kept at low levels due to repeated insecticidal treatments. A FIELD CRICKET (*Gryllus bimaculatus*), COTTON JASSID (*Empoasca lybica*) and a SPIDER MITE (*Tetranychus* sp.) were light at Monte Arruit.

Forest Insects: Populations of GYPSY MOTH (Porthetria dispar) were generally light. Some slight defoliation of cork oaks occurred near Rabat and Kenitra. A PINE PROCESSIONARY MOTH (Thaumetopoea sp.) populations were heavy on pine and cedar near Ketama in April.

Summary of Insect Conditions in Libya

Prepared by R. L. Linkfield and A. Damiano

Cereal and Forage Insects: The SPOTTED ALFALFA APHID (Therioaphis maculata) was quite heavy in Tripolitania and the Fezzan, and BLACK CUTWORM (Agrotis ipsilon)* caused some damage to small plantings of alfalfa in the Fezzan. Medium infestations of COWPEA APHID (Aphis craccivora)* were found damaging maturing alfalfa plants. BEET ARMYWORM (Spodoptera exigua)* caused heavy damage to alfalfa and grass plantings. GREENBUG (Schizaphis (Toxoptera) graminum), CORN LEAF APHID (Rhopalosiphum maidis), and two other APHIDS (R. padi and Cuernavaca noxius)* infested small grains throughout Libya. A SPIDER MITE (Tetranychus frater)* was found infesting soybeans in Tripolitania. DURRA STALK BORER (Sesamia cretica) was very damaging to all plantings of corn.

Fruit and Olive Insects: In general, OLIVE FRUIT FLY (Dacus oleae) infestations were medium throughout the country. On June 1, eggs and larvae were found in olives. A BARK BEETLE (Phloeotribus scarabaeoides) caused severe damage to growing tips of olive trees. Pupae of the CODLING MOTH (Carpocapsa pomonella) were first observed the last of February, while the adults were observed on March 9. Heavy damage was caused to pears, apples and quince in the Tripoli area. Populations of a COCCID (Pollinia pollini) were heavy on olive trees along the coastal areas of Tripolitania. A SPHINGID (Celerio lineata livornica)* was present in some grape vineyards. The distribution and damage caused by this pest have not been determined. Light infestations of ROSY APPLE APHID (Anuraphis rosea)* were found on apple trees in Cyrenaica. Pear and plum trees were heavily attacked by a FRUIT-TREE MITE (Bryobia rubrioculus).* In March, a MITE (Cenopalpus pulcher)* damaged buds and flowers of quince in Tripolitania. FIG WAX SCALE (Ceroplastes rusci) caused complete loss to fig crops in several areas of Tripolitania.

Citrus Insects: Extremely high populations of the MEDITERRANEAN FRUIT FLY (Ceratitis capitata) occurred in 1962. In one citrus grove alone, 500 flies were caught in five Steiner traps in one week. Besides heavy infestations attacking tangerine and the early orange varieties, high populations were found in a persimmon grove. Treatments are being used wherever possible. Heavy infestations of both TWO-SPOTTED SPIDER MITE (Tetranychus telarius) and PRIVET MITE (Brevipalpus obovatus) were observed where chemical control had been applied for scale insect control BLACK PARLATORIA SCALE (Parlatoria zizyphus), CHAFF SCALE (P. pergandii) and DICTYOSPERMUM SCALE (Chrysomphalus dictyospermi) were found infesting many groves at varying degrees of intensity.

Vegetable Insects: Medium infestations of the BEAN APHID (Aphis fabae)* were found attacking beets and Swiss chard in Cyrenaica, and heavy infestations were observed on broadbeans in Tripolitania. GREEN PEACH APHID (Myzus persicae) caused light to medium damage to eggplant, parsley, hot peppers and radish in the Fezzan. TURNIP APHID (Hyadaphis (Rhopalosiphum) pseudobrassicae)* was very heavy on plantings of radish at Sebha. COWPEA APHID (_Aphis craccivora_)* caused considerable damage to broadbeans at the Experiment Station in Brak. A light infestation of an APHID (_Dactynotus cichorii_)* were found on chicory at Derna. The APHIDS (_Anuraphis foeniculus_, _Hyadaphis coriandri_ and _Cavariella aegopodii_)* were present on dill. CABBAGE LOOPER (_Trichoplusia ni_)*caused light damage to lettuce on some truck farms in Cyrenaica. LARGE WHITE BUTTERFLY (_Pieris brassicae_)* and CABBAGE APHID (_Brevicoryne brassicae_) were the major limiting factors in good cabbage production throughout the country. STINK BUGS (_Graphosoma semipunctata_ and _Tholagmus flavolineatus_)* were very heavy on the flowers of dill and carrot. DERMESTIDS (_Anthrenus_ sp. and _Attagenus_ sp.)* were found feeding on the seeds of dill and onion. TWELVE-SPOTTED MELON BEETLE (_Epilachna chrysomelina_)* was the primary pest of cucurbits in the Fezzan. Damage by this pest was estimated to be over 40 percent. A WEEVIL (_Cleonus_ sp.)* was very heavy on plantings of Swiss chard in the Sebha area of the Fezzan. OLD WORLD BOLLWORM (_Heliothis armigera_) was first observed in January on early tomato varieties. A CUTWORM (_Agrotis_ sp.) caused serious damage to watermelons in Tripolitania. SPINY BOLLWORM (_Earias insulana_) was very heavy on okra. A SPHINGID MOTH (_Herse convolvuli_) caused severe damage to the leaves of sweetpotato and morning-glories.

---

* Identified by U. S. Department of Agriculture or U. S. National Museum taxonomist.

Other Field Crop Insects: Infestations of COTTONY-CUSHION SCALE (_Icerya purchasi_) were found on castorbean plants in Tripoli. A PYRALID (_Nephopteryx_ sp.) infested plantings of castorbean. Very heavy infestations of a CRICKET (_Brachytrupes megacephalus_) occurred this year in peanut plantings. In some cases, the farmers had to plant a second crop, the first having been completely destroyed. A SESAME POD BORER (_Antigastra catalaunalis_) was very heavy on sesame plantings.

Ornamental and Forest Insects: The TULIP BULB APHID (_Anuraphis tulipae_)* caused considerable damage to iris plantings in Cyrene, while an APHID (_Anuraphis helichrysi_)* attacked marigold flowers in Derna. A PHYTOSEIID MITE (_Phytoseiulus persimilis_)* damaged violets in Tripolitania. Zizyphus trees in the Mourzouk oasis of the Fezzan were infested with a WHITEFLY (_Aleurolobus niloticus_).* A MEMBRACID (_Oxyrachis tarandus_) was very heavy on _Acacia juliflora_ in the Misurata area. A TORTRICID (_Cacoecimorpha pronubana_) caused considerable damage to commercial plantings of carnations in the Tripoli area. Infestations of a TUSSOCK MOTH (_Casama innotata_) were light this year on _Acacia horrida_, probably due to the active pupal parasites, a CHALCID (_Hockeria unicolor_) and an ICHNEUMON (_Pimpla instigator_). A BLISTER BEETLE (_Zonabris oleae_) caused severe damage to a planting of seed snapdragons in Cyrenaica.

Insects Affecting Man and Animals: In the market area of Gemel, Tripolitania, a very heavy infestation of an ARGASID TICK (_Ornithodoros savignyi_)* occurred. The entire market area had to be sprayed. An IXODID TICK (_Hyalomma impeltatum_)* was found on the ground near the houses of farmers. FLEAS, BED BUGS and COCKROACHES were the three main household pests in Libya.

Beneficial Insects: _Ceroplastes rusci_ and _Saissetia oleae_ were effectively controlled by a PTEROMALID (_Scutellista cyanea_). Collections of this parasite were field-released at Nalut, where _C. rusci_ had destroyed this year's fig crop. A LADY BEETLE (_Scymnus_ sp., probably _testaceus_)* was very active on orange and pomegranate trees in Cyrenaica. Mite populations were very low in orchards observed having this predator. Large populations of another LADY BEETLE (_Coccinella undecimpunctata_)* effectively controlled the spotted alfalfa aphid (_Therioaphis maculata_) in Brak, Fezzan. The spotted alfalfa aphid was being controlled in Mourzouk by a BRACONID (Trioxys utilis)* and in Brak by a PTEROMALID (Pachyneuron sp.).* An ENCYRTID PARASITE (Aphycus helvolus) was introduced into Libya for the first time this year. The parasite was field-released at an olive plantation in Homs, Tripolitania, for control of the black scale. VEDALIA (Rodolia cardinalis) was effectively controlling the cottony-cushion scale in most areas of Tripolitania. A BRACONID (Diaeretiella rapae) heavily parasitized Brevicoryne brassicae.

---

* Identified by U. S. Department of Agriculture or U. S. National Museum taxonomist.

Summary of Insect Conditions in the Republic of the Sudan

Prepared by Arthur Kaatz

Cereal and Forest Insects: DESERT LOCUST (Schistocerca gregaria) invaded the Red Sea Hills and coastal area (winter breeding range) after light rains in November and again in December 1961, and mid-January 1962. Short rains in the north limited the breeding to four small areas, while in the southwest, general rains facilitated more extensive breeding. However, the overall locust invasion and breeding throuhgout the area was light. Only 30 swarms and 114 "hopper" sites were recorded. All young "hoppers" were destroyed before they had reached the fifth instar. There were no locust invasions in the summer breeding range (a wide belt across north central Sudan extending from the borders of the Republic of Chad up to near the Red Sea Hills). This is where invasion and breeding are normally the heaviest. A few very small patches of the solitary phase were found, but they were not numerous, widely scattered and posed no threat. Controls were not necessary. Infestations of a TREE LOCUST (Anacridium moestum melanorhodon)* have increased steadily during the last three years, and in 1962 were present throughout the year in Northern, Khartoum, Kordofan and Darfur Provinces. Breeding took place for the first time in Northern and Khartoum Provinces in July, August and September. This locust is widely scattered in the small brush of the desert wastes. When they have denuded the trees or the vegetation dries up in the desert the locusts, flying at night, invade cultivated areas along the Nile River and threaten sorghum and other vegetation. In this area, controls were aimed at keeping the tree locusts from devastating cultivated crops, rather than an eradication campaign, and were successful. It may be necessary to direct a major control campaign against this insect in coming months. A MIGRATORY LOCUST (Locusta migratoria migratorioides) was present in many places where tree locusts were found, but not numerous except at Khashm el Ghirba where 17 acres of sugarcane were sprayed in order to save a variety trial.

DURRA STALK BORER (Sesamia cretica) was widespread in sorghum in the central Sudan and caused extensive damage in local areas. Sugarcane in Blue Nile Province was also infested. SOUTHERN GREEN STINK BUG (Nezara viridula)* was heavy in sorghum and millet heads during the milk stage in the Tokar Delta in January and February. It was also found on sorghum in Equatoria Province. NOCTUIDS (Heliothis armigera and H. peltigera) infested sorghum and millet in the Tokar Delta during January and February. SPOTTED ALFALFA APHID (Therioaphis maculata)* and COWPEA APHID (Aphis craccivora)* were found in berseen fields near the northern Nile River during February and March. Parasites were present in great numbers and apparently kept aphids under control. No damage was reported. GRASSHOPPERS of all species were numerous and general in 1962. Slight damage to sorghum and sesame crops was reported from many areas. A BLISTER BEETLE was reported damaging sorghum, millet and sesame crops in Darfur Province. A MIDGE was reported causing damage to sorghum heads in southern Butana district. BEET ARMYWORM (Spodoptera exigua) infested peanuts, berseem and kenaf at the demonstration farms of Khashm el Ghirba. Treatments were required on berseem. Also at Khashm el Ghirba, infestation of kenaf and guar (a pulse) trial plots by a FLEA BEETLE had to be treated.

---

* Identified by U. S. Department of Agriculture or U. S. National Museum taxonomist.

Fruit Insects: A FRUIT FLY (Pardalaspis sp.) was serious in a few guava orchards in the Northern Province. Cultural practices were more effective generally, than sprays, in controlling this insect. A CITRUS LEAF MINER (not identified) was widespread over most of the Sudan, causing considerable damage. COCCIDS (Lepidosaphes tapleyi* and Parlatoria pseudaspidiotus*) were found in most mango orchards in Northern and Khartoum Provinces. During June, July and August, a treatment campaign was carried out in Khartoum Province to clear approximately 35,000 mango seedlings from infestation. Elsewhere, all along the Nile River, small orchards were reported being successfully treated. PARLATORIA DATE SCALE (Parlatoria blanchardi)* is serious in the date palm region of Northern Province. Very few schemes were sprayed, and treatment was not always successful. Up to 60 percent of the date palms in the Dongola-Nile reach are attacked by a TERMITE (Odontotermes sudanensis)*. Citrus in the Sennar District and along the Nile River was treated to control SCALE INSECTS. MEALYBUGS were persistent in 1962 on guava, grapes, mangoes and citrus in Northern and Khartoum Provinces. Grapefruit and orange were treated where HIBISCUS MEALYBUG ("Phenacoccus" hirsutus)* was reported in Khartoum Province. A mealybug-ant complex on guava in the Shendi District and on grapes in Khartoum was sprayed and successfully controlled. Mealybugs were also found on pineapple in Equatoria Province, but they were not a problem in 1962. TWO-SPOTTED SPIDER MITE (Tetranychus telarius) attacks on grapefruit and oranges were light but widespread. Treatments were applied in Khartoum in March and April. Light infestations were also reported on citrus along the Dongola-Merowe Nile reach, but no controls were applied. Light infestations of a CATERPILLAR (Papilio sp.) were found in most of the citrus-growing areas. Treatments were carried out on 700 citrus seedlings in Equatoria and on 30 acres of young trees in Khashm el Ghirba. GRASSHOPPERS were general on all young citrus trees, but damage to leaves was light except in Equatoria where 700 citrus seedlings were sprayed to protect nursery stock.

Vegetable Insects: The most important pests of vegetables were THRIPS on onions, and RED PUMPKIN BEETLE (Raphidopalpa foveicollis)* and TWELVE-SPOTTED MELON BEETLE (Epilachna chrysomelina)* on cucurbits and beans. A 70-acre melon crop on the Blue Nile was destroyed by the latter two pests. Many fields were successfully treated. In the Shendi District, 150 acres of onions were treated to control thrips; 30 acres at Khartoum and many smaller patches in other regions. A BLISTER BEETLE (Mylabris sp.)* was severe on okra, tomatoes and beans during September and October in Darfur Province. Blister beetles were also reported on sorghum in the same area and on melons along the Blue Nile River. FLEA BEETLES severely attacked okra wherever planted, especially in Darfur, Blue Nile and Equatoria Provinces. A FRUITWORM (Heliothis armigera) attacked tomato fruit along the Nile River. Many plantings had to be sprayed; some were abandoned. SOUTHERN GREEN STINK BUG (Nezara viridula)* was severe on tomatoes at Arbaat Wells. A HORNWORM and SWEETPOTATO WEEVIL (Cylas formicarius)* were found on sweetpotato in Equatoria Province. CABBAGE APHID (Brevicoryne brassicae)* caused severe damage and crop loss on cabbage at Wad Ramli demonstration farms, and WHITEFLIES and LEAFHOPPERS were reported on tomato and eggplants in most areas and were suspected of being vectors of leaf curl on tomatoes. A FRUIT FLY (Dacus sp.) attacked most melon fields and ruined much of the fruit. Only the most progressive owners sprayed their melon fields. A CABBAGEWORM required controls on cabbage in Equatoria, and a TINGID (Urentius echinus)* was found in many areas on eggplant. The latter pest was not serious except at Khashm el Ghirba where controls were carried out.

Cotton Insects: COTTON JASSID (Empoasca lybica) occurred this year in all cotton-producing regions. Due to the late season, attacks were later and varied in intensity. In the Gezira, White and Blue Nile reaches, aerial treatments on an estimated 600,000 acres of cotton started the last week of September and are expected to be continued well into January 1963. The Tokar Delta was also affected from January through March 1962. "Hopperburn" was severe in places, but no controls were applied. Treatments were applied to 6,000 acres of early cotton at Zeidab in Northern Province in July and to a small acreage at Khashm el Ghirba. SWEETPOTATO WHITEFLY (*Bemisia tabaci*)* is as widespread as the cotton jassid in the Sudan. Controls for the two pests are usually combined, therefore the same acreages were treated in 1962. The infestation of sweetpotato whitefly was reported heavy in the northern Gezira and varied greatly in the rest of the Blue Nile and White Nile Districts during early October, but it became heavier by November, necessitating spraying in all areas. COTTON APHID (*Aphis gossypii*) was general in all cotton fields in Equatoria Province, but it caused little damage. On Tokar Delta cotton, heavy deposits of honeydew lowered the cotton grade. Parasites and predators were reported present in Tokar, but not numerous enough to control the aphid. Aphids were also reported in Sennar, Singha and Dueim Districts.

---

* Identified by U. S. Department of Agriculture or U. S. National Museum taxonomist.

A COTTON THRIPS (*Hercothrips fumipennis*) was reported in Dueim District in October on 5 different schemes. Up to 50 percent damage was reported in 2,200 acres of cotton at Semieh scheme. Parts of this scheme were later treated, also 5 schemes at Dueim. A FLEA BEETLE (*Podagrica puncticollis*) destroyed approximately 6,000 acres of cotton seedlings in the Gedaref District during August and September. An additional 15,000 acres were saved by spraying the edges of cotton fields and adjoining fallow fields. It was also reported in the early sown cotton along the Blue Nile reach and in the Nuba Mountains. COTTON STAINERS (*Dysdercus* spp.) infested cotton in Equatoria, Tokar Delta and Gash areas. A control campaign was carried out in the Nuba Mountains.

The BOLLWORMS (*Heliothis armigera* and *H. peltigera*) infested about 60,000 acres of cotton in the Tokar Delta during January through March, causing enough damage to ruin most of the first and second pickings. In October at Gedaref, 15,000 acres were reported heavily infested with both *H. armigera* and a RED BOLLWORM (*Diparopsis watersi*). South of Kosti and south of Sennar, both *H. armigera* and *D. watersi* were reported in January, February and March, and again in October on this season's crop. Many schemes were treated to control *H. armigera*. *D. watersi* was also reported in the Nuba Mountains and in the Gash scheme. SPINY BOLLWORMS (*Earias insulana** and *E. biplaga*) were both reported in the Tokar Delta and in the Nuba Mountains. *Earias insulana* was also reported along the White Nile south of Kosti and on the Blue Nile south of Sennar. PINK BOLLWORM (*Pectinophora gossypiella*) is present along the Blue and White Nile Rivers, but is kept under control by heat treatment of all cottonseed and clean cultivation measures. Equatoria Province, where clean cultivation practices are lax, reported heavy infestations in several local areas near Nzara.

Other insects reported on cotton were a MIRID (*Helopeltis* sp.) and a LEAF MINER in Equatoria Province. Also reported was a PSYLLID, which migrated from the Congo. It was reported to be serious on leaves in several areas. COTTONSEED BUG (*Oxycarenus hyalinipennis*)* was reported in the Tokar Delta and Equatoria Province. EGYPTIAN COTTONWORM (*Prodenia litura*) was present in the Gash where cotton fields were adjacent to infested castorbeans. This pest was reported for the first time on cotton in the Nuba Mountains where about 1,000 acres were treated. A LYGUS BUG damaged terminal buds and leaves of young cotton near Suki on the Blue Nile; 10,000 acres were treated. COTTON STEM BORER (*Sphenoptera gossypii*) is present in the Gash and may become a problem, as cotton stalks are saved as stock material for a paper factory. Many stem borers were found emerging from this material. GRASSHOPPERS, CRICKETS and TERMITES caused slight damage in most of the cotton-growing district. A TERMITE (*Microtermes aluco*)* was reported in the Tokar Delta.

Stored-product Insects: KHAPRA BEETLE (*Trogoderma granarium*) is present in much of the Sudan and is the major insect pest of stored products. Two storehouses at Port Sudan were given fog treatment and several shipments of agriculture products were fumigated, but otherwise no controls were conducted. The FLOUR

---

* Identified by U. S. Department of Agriculture
or U. S. National Museum taxonomist.

BEETLES (Tribolium confusum and T. castaneum) are found in and on agriculture products wherever stored. Several storehouses at Port Sudan were treated, but no other controls were undertaken except fumigation of exports on request. Other insects frequently found in varying numbers were a GRAIN MOTH (Corcyra sp.), CADELLE (Tenebroides mauritanicus), SILVERFISH, COCKROACHES, RICE WEEVIL (Sitophilus oryzae) and LESSER GRAIN BORER (Rhyzopertha dominica). A BEETLE, probably cigarette beetle, ruined several large inventory stocks of cigarettes in Juba. A WEEVIL (unidentified) was reported in stored tobacco at Yei and Maridi.

Castorbean Insects: Castorbeans are grown in the Gash scheme and on a few small schemes in the Northern Province. While many caterpillars were present this year, only two caused any appreciable damage. They were EGYPTIAN COTTONWORM (Prodenia litura) and a CASTORBEAN CATERPILLAR (Achaea catella). Two parasites, a PHORID (Megaselia sp.)* and a CHALCID (Brachymeria euploeae)*, found in great numbers in the Gash, have apparently controlled many of the caterpillars. GRASSHOPPERS (many species) caused the only other reported damage, and about 1,000 acres were treated around the edges of fields to kill grasshoppers moving in from adjoining fields. Other insects reported on castorbean were a PYRALID (Phycita poteriella) on leaves; LEAFHOPPERS (Erythroneura sp.); NOCTUIDS (Grammodes geometrica, Heliothis armigera, Spodoptera exigua and Eublemma brachygonia) (the last on male flowers); a STEM BORER (Sphenoptera sp.); LIMA-BEAN BOD BORER (Etiella zinckenella) on leaves; a SPIDER MITE (Eutetranychus orientalis); WHITEFLIES; and CRICKETS.

Coffee Insects: A LEAF MINER (Leucoptera sp.), reported from the Congo, has been reported to be causing damage in Equatoria Province. The LEAF SKELETONIZER (Leucoplema dohertyi) caused slight damage to shaded and thickly planted coffee. COFFEE BERRY BORER (Stephanoderes hampei)* damage was reported up to 60-80 percent in fruits of older plantations in the Yei District. Infestations were also reported from the Maridi District. MEALYBUGS have spread over most of the coffee area of the Maridi District where a number of plantations were successfully treated. Also reported were a COFFEE TRUNK BORER and THRIPS in the Yambio District.

Insects Affecting Man and Animals: (Contributed by F. H. Khattat, WHO Entomologist) - MOSQUITOES: Anopheles gambiae, occurring throughout the country, is the main vector of malaria in the Sudan and A. funestus is another major vector. A number of other Anopheles are recorded for the country and some of these are secondary or potential vectors. YELLOW-FEVER MOSQUITO (Aedes aegypti) is generally distributed. Although the 1940 yellow fever epidemic in the Nuba Mountains area was attributed to this species, two other Aedes of the subgenus Stegomyia in the area, transmitted the disease experimentally to monkeys. The chief vector of filariasis to man is Culex pipiens quinquefasciatus. PSYCHODIDS: Sand flies are widespread in Sudan. Phlebotomus papatasi is responsible for the transmission of oriental sore (Leishmania tropica) and a sand fly fever; another species, P. orientalis, is reported to be a vector of Kala-azar (L. donovani). CULICOIDES: Culicoides milnei and C. pallidipennis, found in the Nuba Mountains area, are annoying biters. Livestock are seriously annoyed by these pests. SIMULIDS: Simulium damnosum and S. griseicolle are the main vectors of onchocerciasis. TABANIDS: A number of these insects are known from the country and, in addition to their harmful bites, they transmit several diseases of man and animals. MUSCIDS: Glossina morsitans and G. tachinoides transmit cattle trypanosomiasis in the southern tsetse fly belt. G. palpalis is a vector of human sleeping sickness, a disease which is confined to a few isolated foci in Sudan. Among the most common of the muscids are Musca domestica vicina, M. sorbens and M. lusoria.

---

* Identified by U. S. Department of Agriculture or U. S. National Museum taxonomist.

Summary of Insect Conditions in Ethiopia

Prepared by W. C. Kurtz

Cereal and Forage Insects: A PYRRHOCORID BUG (Dysdercus nigrofasciatus), a known cotton pest, was collected on sorghum near Wolliso. An APHID (Aphis sorghi)* severely infested sorghum near Simba and corn at Jimma. A medium infestation of a STINK BUG (Aspavia vittiventris)* was noted on soybeans and grass at the experiment station of the Jimma Agricultural School. A LEAFHOPPER (Tettigoniella cosmopolita)* was possibly associated with a defoliating disease of soybeans at Jimma. Populations were very heavy. CORN PLANTHOPPER (Peregrinus maidis)* was heavy under the leaf sheaths of sorghum and corn at Robi. At Quiha, an EARWIG (Forficula senegalensis)* was prevalent under the leaf sheaths and husks of corn. The NUTGRASS ARMYWORM (Spodoptera exempta)* was heavy on corn near Nazareth. There was relatively light damage from S. exempta in 1962, although generally it causes widespread damage. SUDAN DURRA BUG (Agonoscelis versicolor) generally caused heavy damage on sorghum in western Eritrea. A LADY BEETLE (Chnootriba similis) was found in sweepings from soybeans at Jimma. A LEAF BEETLE (Exora pusilla)** infested teff and wild grasses on range and farms near Jimma. Another LEAF BEETLE (Luperodes exclamationis)** lightly infested soybeans at the same location. A light infestation of a STINK BUG (Nezara immaculata) was found on growing corn and wheat at Quiha. This species is new to the U. S. National Museum. Economic loss is experienced almost every year in lower elevation to forage, all kinds of crops and other vegetation by the DESERT LOCUST (Schistocerca gregaria). An ARCTIID was collected on Crotalaria sp. at Alemaya, about 40 per plant. A CORN EARWORM (Heliothis sp., presumably armigera) caused heavy damage to corn and sorghum at Alemaya. A SPITTLEBUG (Locris sp.)* was found lightly infesting grass at Jimma and Alemaya. Commonly found along the roadside, feeding on the leaves of broadleaf herbaceous plants, was a PLANT-FEEDING LADY BEETLE (Epilachna vigintipunctata).* This species also feeds on grasses. An APHID (Aphis sacchari)* was heavy on corn at Jimma.

Fruit Insects: A VINEGAR FLY (Zaprionus vittiger) heavily infested guava at Shashamana and Awash. BLACK PARLATORIA SCALE (Parlatoria zizyphus) was found lightly infesting orange trees at Wuchale and in areas of Eritrea. Also at the same fruit farm in Wuchale, the FALSE CODLING MOTH (Cryptophlebia leucotreta)* caused 4 to 6 percent damage to navel and mandarin oranges. A SAWFLY was light on grape at Ambo. At Debre Zeit, a light infestation of a PSYLLID (Spanioza erythreae) caused pitting of the underside of leaves, badly deforming them. This pest is quite common in citrus in most parts of the country. At the fruit market in Addis Ababa, the STRIPED MEALYBUG (Ferrisia virgata) heavily infested Anona sp. fruit. This fruit reportedly came from Dire Dawa vicinity. At Keren (Eritrea) and Dire Dawa, BLACK CITRUS APHID (Toxoptera aurantii) lightly infested citrus. YELLOW SCALE (Aonidiella citrina) and BROWN SOFT SCALE (Coccus hesperidum) were heavy on citrus at Harrar. The latter species was also heavy at Wuchale. A light infestation of three COCCIDS, Africonidia africana,* OLEANDER SCALE (Aspidiotus hederae)* and Coccus sp.,* was found on mango near Harrar. The COTTONY-CUSHION SCALE (Icerya purchasi) is generally distributed over Ethiopia on many hosts and causes a great amount of economic damage to citrus. Attempts at introducing VEDALIA in 1962 for control were unsuccessful. Further attempts will be made.

Truck Crop Insects: A LYGAEID BUG (Spilosternus pandurus) lightly infested artichoke at Harrar. A COREID BUG (Acanthomia tomentosicollis)* heavily infested bean pods at Harrar. A STINK BUG (Eurydema ornatum)* caused light damage to cabbage at Harrar and mustard near Cambolcia. Larvae of LARGE WHITE BUTTERFLY (*Pieris brassicae*)* were found feeding heavily on cabbage near Addis Ababa, and EGGPLANT FRUIT BORER (*Leucinodes orbonalis*)* caused light damage to eggplant in the same area. A LEAF BEETLE (*Phyllotreta mashonana*)** heavily infested cabbage at Jimma, and another LEAF BEETLE (*Altica pyritosa*)*** was heavy on flax near Robi and light on sweetpotatoes at Jimma. Also at Robi, heavy damage was caused to eggplant by a PLANT-FEEDING LADY BEETLE (*Epilachna fulvusignata*).* A light infestation of POTATO APHID (*Macrosiphum euphorbiae*)* was found on sweetpotatoes at Jimma Agricultural School, and a light to medium infestation of a THRIPS (*Hercinothrips* sp., undescribed)* was found on Swiss chard at Alemaya. A LEAF BLOTCH MINER (*Cryphiomystis*,* near this genus but new genus and species) mined sweetpotato leaves seriously at Jimma. A light to medium infestation of a PLANT BUG (*Halticus* sp.) was found on eggplant at Robi, and a WEEVIL (*Blosyrus rugulosus* ssp. *abyssinicus*)** was heavy on sweetpotatoes at Alemaya. At Senefe, an APHID (*Cavariella aegopodii*) was heavy on edible fennel.

---

* Identified by U. S. Department of Agriculture
or U. S. National Museum taxonomist.

** Identified by Commonwealth Institute of Entomology.

Cotton Insects: A PYRRHOCORID BUG (*Dysdercus nigrofasciatus*) caused considerable damage to cotton near Waldea. At Tandahoe and Assietta, several insects were prevalent such as LEAFHOPPERS, SPINY BOLLWORM (*Earias insulana*), WHITEFLIES and COTTON APHID (*Aphis gossypii*). At Ghibe River, a heavy infestation of LEAFHOPPERS was reported. THRIPS were also quite common. Timely spraying at Tandahoe and Assietta will probably prevent any serious damage.

Coffee Insects: A LYONETIID (*Leucoptera* sp.), a leaf miner, was found causing light damage at Jimma. A light infestation of a STINK BUG (*Calidea bohemani*) was noted at Shashamana.

Oil Seed Insects: At Chacha, flax was lightly infested by a STINK BUG (*Veterna abyssinica*)* and heavily infested by a THRIPS. A light infestation of another STINK BUG (*Sphaerocoris annulus*)* was found on Ethiopian nigerseed, *Guizotia abyssinica*.

Miscellaneous Insects: A POWDER-POST BEETLE (*Lyctus brunneus*)* heavily infested old furniture at Alemaya, and a TERMITE (*Odontotermes* sp.) was found infesting a house at Addis Ababa. A heavy infestation of GREENHOUSE WHITEFLY (*Trialeurodes vaporariorum*)* was reported on hollyhock, and a COCCID (*Coccus elongatus*) was collected from acacia trees, both in Addis Ababa. Another COCCID (*Saissetia nigra*) was collected from false peppertree in Asmara; and OLEANDER SCALE (*Aspidiotus hederae*),* FLORIDA RED SCALE (*Chrysomphalus aonidum*)* and still another COCCID (*Selenaspidus articulatus*)* were severe on palms at Harrar.

---

* Identified by U. S. Department of Agriculture or U. S. National Museum taxonomist.

** Identified by Commonwealth Institute of Entomology.

*** Identified as *Haltica pyritosa* by Commonwealth Institute of Entomology.

Changes in the Scientific Names of Some Common Aphids

Louise M. Russell[1]

Beginning with this announcement, different scientific names will be used in my determinations of several species of common aphids than have been used in the past. The changes are being made in order to indicate more clearly the relationship of the included species, and to give expression to the advances that have been made in the understanding of the species. Broad generic concepts are denoted in the name combinations, and subgeneric names will not be indicated in routine determinations.

With one exception, the name combinations adopted here may be found in the exceedingly useful publication, "A Conspectus of Aphids as Vectors of Plant Viruses," by J. S. Kennedy, M. F. Day, and V. F. Eastop, 114 pages 1962 (Commonwealth Institute of Entomology, 56 Queen's Gate, London, S. W. 7, 25s).

Most of the names have been used extensively for several years, but one, Acyrthosiphon solani (Kaltenbach), apparently is a new combination in the Conspectus. Ovatus crataegarius (Walker), the only name not appearing in the Conspectus, is in current use and may be found in "Francis Walker's Aphids," by John P. Doncaster, 165 pages, 1961 (British Museum (Natural History)), Cromwell Road, London, S. W. 7, Three Pounds).

The names that will be changed in my determinations are as follows:

Future name	Former name
Acyrthosiphon barri (Essig)	Macrosiphum barri (Essig)
Acyrthosiphon dirhodum (Walker)	Macrosiphum dirhodum (Walker)
Acyrthosiphon pelargonii (Kaltenbach)	Macrosiphum pelargonii (Kaltenbach)
Acyrthosiphon pisum (Harris)	Macrosiphum pisi (Harris)
Acyrthosiphon porosum (Sanderson)	Myzus porosus (Sanderson)
Acyrthosiphon solani (Kaltenbach)	Myzus solani (Kaltenbach)
Dactynotus ambrosiae (Thomas)	Macrosiphum ambrosiae (Thomas)
Dactynotus rudbeckiae (Fitch)	Macrosiphum rudbeckiae (Fitch)
Hyadaphis pseudobrassicae (Davis)	Rhopalosiphum pseudobrassicae (Davis)
Macrosiphum avenae (Fabricius)	Macrosiphum granarium (Kirby)
Neomyzus circumflexus (Buckton)	Myzus circumflexus (Buckton)
Ovatus crataegarius (Walker)	Phorodon menthae (Buckton)
Schizaphis graminum (Rondani)	Toxoptera graminum (Rondani)
Smynthurodes betae (Westwood)	Trifidaphis phaseoli (Passerini)

---

[1] Entomology Research Division, Agric. Res. Serv., U. S. Department of Agriculture, Washington, D. C.

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON 25, D. C.

Official Business

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE